

IN THE CLAIMS

Please cancel claim 10, amend claims 1-9, and add new claims 11 and 12 as follows:

1. (Currently Amended) ~~Loudspeaker~~ A loudspeaker protection system comprising:

_____ filter means for defining one or more dividing a frequency spectrum of an input audio signal into a plurality of frequency

5 ~~bands of an audio signal, characterised in that the loudspeaker protection system further comprises;~~

_____ controllable amplifier/attenuator means coupled to the filter means; and

B
10 _____ processing means coupled to control for controlling the amplifier/attenuator means, ~~such as to determine~~ said processing means determining audio power in ~~at least one of said frequency bands representing relevant loudspeaker protection information, and selectively controlling said controllable amplifier/attenuator means in response to the determined~~ used for selective audio power
15 ~~control in said at least one of said plurality of frequency bands.~~

2. (Currently Amended) ~~Loudspeaker~~ The loudspeaker protection system ~~according to~~ as claimed in claim 1, ~~characterised~~ characterized in that the processing means ~~are equipped to~~

~~determined~~determines the audio power S_j in frequency band j in
5 proportion to:

$$v_{j\text{top}}^2 * R\{Y_j\},$$

where $v_{j\text{top}}$ is the peak value of the amplitude of the frequency components in frequency band j , and $R\{Y_j\}$ is the real part of the electric admittance of the loudspeaker in frequency band j .

3. (Currently Amended) ~~Loudspeaker~~The loudspeaker protection system according to~~as claimed in~~ claim 2, ~~characterised~~
characterized in that in the loudspeaker protection system, $j = 1, 2, 3 \dots n$, where n equals the number of frequency bands wherein
5 into which the frequency spectrum of the audio signal is divided.

4. (Currently Amended) ~~Loudspeaker protection system according to claim 2A~~ loudspeaker protection system comprising:

filter means for defining one or more frequency bands of an audio signal;

5 controllable amplifier/attenuator means coupled to the filter means; and

processing means coupled to control the amplifier/attenuator means, such as to determine audio power in at least one of said frequency bands representing relevant loudspeaker
10 protection information used for selective audio power control in said at least one frequency band, characterised

characterized in that the processing means determines the audio power S_j in frequency band j in proportion to:

$$\frac{v_{jtop}^2 * R\{Y_j\},}{}$$

15 where v_{jtop} is the peak value of the amplitude of the frequency components in frequency band j , and $R\{Y_j\}$ is the real part of the electric admittance of the loudspeaker in frequency band j , and the processing means ~~are capable of summing~~ sums the audio power S_j in the plurality of frequency bands over a specified sub-range of
20 possible values of j , where j ~~is in the range~~ ranges from 1, 2, ...
n.

5. (Currently Amended) ~~Loudspeaker~~ The loudspeaker protection system according to ~~as claimed in claim 4, characterised~~
characterized in that if any summed value or combination of values S_j approximates some normalised a normalized value S_{norm} , the
5 processing means then controls the amplifier/attenuator means ~~are controlled by the processing means.~~

6. (Currently Amended) ~~Loudspeaker~~ The loudspeaker protection system according to ~~as claimed in claim 4, characterised~~
characterized in that the processing means are equipped to
~~determine~~ determines S_j or any summation thereof every 0.001 - 2
5 sec., in particular every .1 - 1 sec.

7. (Currently Amended) ~~Loudspeaker~~ The loudspeaker protection system according to as claimed in claim 15, characterised characterized in that the processing means controls the amplifier/attenuator means are controlled such by the processing
5 means that attenuation factors of the amplifier/attenuator means
are proportional to:

$$1 / \sqrt{\alpha} + \beta_j (1 - 1 / \sqrt{\alpha})$$

where $\alpha = S/S_{\text{norm}}$, S is the summed value, and β_j represents a factor
whose having a value depends depending empirically on the
10 particular frequency band j.

8. (Currently Amended) ~~Loudspeaker~~ The loudspeaker protection system according to as claimed in claim 1, characterised characterized in that output means of said amplifier/attenuator
means is coupled to a first terminal of a loudspeaker, and the
5 loudspeaker protection system further comprises a series
arrangement of the loudspeaker and a measuring element coupling a
second terminal of the loudspeaker to ground, such as a resistance,
whose a common connection point is between the loudspeaker and the
measuring element being coupled to the processing means, whereby to
10 account for actual impedance data of the loudspeaker as determined
by the measuring element is taken into account by the processing
means.

9. (Currently Amended) ~~Loudspeaker~~ The loudspeaker protection system according to as claimed in claim 1, characterised
characterized in that the processing means is arranged to
initiate/initiates control of the amplifier/attenuator means in a
5 shorter amount of time than that the amount of time over which
control is withdrawn.

10. (Cancelled).

11. (New) The loudspeaker protection system as claimed in
claim 6, characterized in that the processing means determines S_j
or any summation thereof every 0.1 - 1 sec.

12. (New) The loudspeaker protection system as claimed in
claim 8, wherein said measuring element is a resistor.